

ISIS - Feature #1722

Convert ISIS2 DAISY script

2013-07-26 03:36 PM - Tammy Becker

Status:	Acknowledged	Software Version:
Priority:	Normal	
Assignee:		
Category:	API	
Target version:	FY17 Sprint 3	
Impact:	This is a new feature, so there will be no impact upon ISIS3.	
Description		
DAISY in ISIS2 calls a series of applications to generate a 'flower petal' projection product (north and south) for handmade globes, this procedure needs to be converted to ISIS3.		
Related issues:		
Related to ISIS - Feature #1723: Convert ISIS2 DAISPARM to ISIS3		Acknowledged
Related to ISIS - UserTestPlan #4502: Convert ISIS2 Daisy script		New

History

#1 - 2013-07-26 03:57 PM - Tammy Becker

- Status changed from New to Acknowledged

#3 - 2016-11-01 10:42 AM - Tammy Becker

- Related to UserTestPlan #4502: Convert ISIS2 Daisy script added

#4 - 2016-11-10 10:19 AM - Jason Laura

- Project changed from ISIS 2 Ports to ISIS

- Target version set to FY17 Backlog

#5 - 2016-11-10 11:56 AM - Jason Laura

- Story points set to 2

#6 - 2016-11-10 11:57 AM - Jason Laura

- Target version changed from FY17 Backlog to FY17 Sprint 3

#7 - 2016-11-17 02:07 PM - Tyler Wilson

- Category set to API

- Assignee set to Tyler Wilson

#8 - 2016-11-17 03:17 PM - Tyler Wilson

- Status changed from Acknowledged to In Progress

#9 - 2016-11-17 03:23 PM - Tyler Wilson

- Impact updated

#10 - 2016-11-17 03:42 PM - Trent Hare

To help create a user test plan here is some information. This should be one application instead of two. I think originally one application wrote a script and then just ran the script. I don't see a need for two.

ISIS3 recently added support for the Lambert Azimuthal projection so a Daisy processing-only script could be created for ISIS3 (requires Transverse

Mercator also). If you want to see the secret sauce you can see the many steps in this ISIS2 log.
ftp://pdsimage2.wr.usgs.gov/pub/pigpen/mars/daisy_projected/ISIS2_steps_for_daisy_print.prt.txt

or the ISIS2 source code: ftp://pdsimage2.wr.usgs.gov/pub/pigpen/mars/daisy_projected/daisy_source_code_ISIS2.zip

It is basically just a bunch of reprojections, rotations and then image merge based on pixel offset locations.

For example jpeg output using the default output size of 8600x8600
http://pdsimage2.wr.usgs.gov/pub/pigpen/mars/daisy_projected/.jpeg/

Here is an input cube - feel free to take this and sub-sample way down for testing:
http://astrogeology.usgs.gov/search/map/Mars/GlobalSurveyor/MOLA/Mars_MGS_MOLA_ClrShade_merge_global_463m

Here were the ISIS2 input parameters: (from: <https://isis.astrogeology.usgs.gov/Isis2/isis-bin//pdfs2.cgi?daisy>)

#11 - 2016-11-22 02:47 PM - Trent Hare

Just a note to capture this information. I noticed the map projection in ISIS2 had a rotate at the same time (see ISIS print log from above). This will need to be done after map projection. An outline for the steps are listed below. The nut to crack is to figure out the output cellsize for the map projection runs for the requested output line by sample image size. perhaps "mapsize" can be used for this.

-Trent

```
// Make empty file XxY (e.g. 8600x8600)
makecube to=final_daisy.cub ...
```

```
// Do 12 Transverse Mercs
For sect 1 to 12
  clon = (sect - 1) * 30
  rotation = clon
  min_lon = clon - 16.0
  max_lon = clon + 16.0
```

```
if north:
  min_lat = -1
  max_lat = 90
  std_par = 75
else: //south hemisphere
  rotation = 360 - rotation // maybe
  min_lat = -90
  max_lat = 1
  std_par = -75
```

```
maptemplate map=$i.map projection=transversemercator clon=Lon clat=Lat min/max_lat_lon....
map2map from=file.cub map=$i.map to=$i.cub ...
rotate from=$i.cub to=$i.rot.cub degrees=rotation (where rotation = 0, 30, 60, 90...)
handmos to=final_daisy.cub...
```

```
//Do 1 Lambert Az
min_lon = -180
max_lon = 180
clon = 0
scale = 1.0
if north:
  min_lat = 75
  max_lat = 90
  std_par = 75
else: //south hemisphere
  min_lat = -90
  max_lat = -75
  std_par = -75
```

```
maptemplate map=lama.map projection=lambertaz... clon=Lon clat=Lat min/max_lat_lon....  
map2map from=file.cub map=lama.map to=lama.cub ...  
handmos to=final_daisy.cub ...  
  
clean up $i*.cub (s)
```

#12 - 2016-11-30 10:10 AM - Tyler Wilson

- *Status changed from In Progress to Acknowledged*
- *Assignee deleted (Tyler Wilson)*